

REMARKS

In response to the Office Action dated July 2, 2002, claims 1, 7, 10, 12, 16 and 17 are amended, and claims 21-23 are added. Claims 1-23 are now active in this application. No new matter has been added.

The indication that claim 11 is allowable and that claims 7, 8, 10 and 16 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, is acknowledged and appreciated.

By this response claims 7, 10 and 16 are amended to be in independent form including all of the limitations of the base claim and any intervening claims. Consequently, amended claims 7, 10 and 16, as well as claim 8, are believed to be allowable.

REJECTION OF CLAIMS UNDER 35 U.S.C. § 102 AND § 103

- I. Claims 1-5, 9 and 12-15 are rejected under 35 U.S.C. §102(b) as being anticipated by Tanaka (U.S. Patent No. 5,126,786).
- II. Claim 6 is rejected under 35 U.S.C. §103(b) as being unpatentable over Tanaka in view of Matsui et al. (U.S. Patent No. 5,921,537).
- III. Claims 17-20 are rejected under 35 U.S.C. §102(b) as being anticipated by Taneda et al. (U.S. Patent No. 5,236,185).

IV. In the present invention, the image forming device is equipped with a plurality of discharge trays. The purpose of the discharge trays is to catch sheets, with images formed thereon, as they are discharged, and from which the user picks up the sheets with images formed thereon.

One of the features of the invention is to set up a specific condition for at least one of the plurality of discharge trays from the operating panel. In other words, this feature is to store an operating condition with respect to the particular tray in the memory unit. Consequently, when the user later executes an image forming operation selecting this discharge tray, the stored operating condition will be automatically applied in the image forming operation. An image forming apparatus having such a feature provides an advantage that the user can obtain printed objects with a uniform format by simply selecting a discharge tray.

To expedite prosecution, independent claims 1, 12 and 17 are amended to delineate subject matter not disclosed or suggested in Tanaka. Amended claim 1 now requires “a setting means for selectively setting the form of output with respect to at least one of said plurality of trays.” In other words, output formats with respect to the discharge trays are selectively registered. The present disclosure shows various output formats, such as a format of forming multiple pages of images on one side of a sheet and a format of forming images on both sides of a sheet.

Amended claim 1 further requires “an image forming unit for forming an image on the sheets in the form of output set by said setting means when the tray which the form of output has been set is selected as the destination of discharged sheet.” In other words, if this discharge tray is selected for executing the image formation, the image formation will be executed automatically applying the set output format. This makes it possible for the user to easily obtain

printed objects with a uniform format over multiple jobs by simply specifying the particular discharge tray as the preset output format that will be applied.

Amended claim 12 now requires “a setting means for selectively setting the size of sheet with respect to at least one of said plurality of trays”. In other words, a sheet size to be used with respect to the discharge trays is selectively registered. Amended claim 12 requires also “an image forming unit for supplying sheets of the size set by said setting means and forming an image on the supplied sheet when the tray which the size of sheet has been set is selected as the discharge destination”. In other words, if this discharge tray is selected for executing the image formation, the image formation will be executed automatically supplying sheets of the preset size. This makes it possible for the user to easily obtain printed objects of a uniform sheet size over multiple jobs by simply specifying the particular discharge tray as the preset sheet size that will be applied.

Amended claim 17 now requires “a setting means for selectively setting a post handling condition of discharged sheets with respect to at least one of said plurality of trays.” In other words, a post handling condition for discharged sheets with respect to the discharge trays is selectively registered. Amended claim 17 requires also “a sheet processing unit for performing the post handling of sheets based on the post handling condition set by said setting means when the tray which the post handling condition has been set is selected as the discharged destination.” In other words, if this discharge tray is selected for executing the image formation, a post handling will be performed automatically applying the preset post handling condition. This makes it possible for the user to easily obtain printed objects handled uniformly over multiple jobs by simply specifying the particular discharge tray as the preset post handling condition that will be applied.

Claims 1 and 12

Tanaka discloses an image forming device wherein an image is formed based on data transmitted from the host computer. The disclosure of the reference includes a description that the main unit of said image forming device is connected to a plurality of option devices, and that the system is controlled by communicating commands attached with logical ID codes that indicate individual option devices between the main unit of said image forming device (print engine) and the option devices.

The Examiner points out that the elements 7, 8 and 9 of Tanaka correspond to the discharge trays of claim 1 of the present invention. However, the element 7 is a multiple-stage discharged paper unit equipped with a plurality of trays, the element 8 is a large volume discharged paper unit, and the element 9 is a paper re-supply and transfer unit for a double-side printing process. Element 9 is at least not a discharged paper tray as recited in amended claim 1 of the present invention. Even if it were presumed that the element 9 is to be a discharged paper tray, it cannot be selectively assigned either a double-side printing or not, since a sheet transferred to this unit is to be re-supplied for a double-side printing process. Therefore, even if it is presumed that element 9 is a discharged paper tray, it does not imply the requirement of “a setting means for selectively setting the form of output with respect to at least one of said plurality of trays”, as recited in amended claim 1.

The Examiner also finds that “a setting means...” is indicated by lines 47 through 59 of column 5 and lines 31 through 43 of column 16. However, this finding is believed to be incorrect for the following reasons.

Lines 47-59, column 5 of Tanaka only describe that logical ID codes are assigned to the optional units 3, 5, 6, 8 and 9 and these optional units are identified by these codes. Moreover, the lines 31-43, column 16 of Tanaka show the specific examples of the commands transmitted between the print engine and the optional units including **“10. Tray selection Command.”**

In this regard, attention is directed to the description of lines 9-31, column 15 and the descriptions concerning Fig. 11A and B. These commands are the commands transmitted from the print engine (the main unit of the image forming device) to the option units, and each command includes a tray selection command and a device ID code indicating its notification destination. Each of these is transmitted from the print engine to a specific option device instructing the device to perform an operation. For example, in executing a printing operation using the paper discharge option 7 and the paper supply option 4, a command including the ID code and the tray selection command for the paper discharge option 7 is sent to the paper discharge option 7, and a command including the ID code and the tray selection command for the paper supply option 4 is sent to the paper discharge option 4 at the same time.

Therefore, lines 47-59, column 5 of Tanaka suggest neither setting of output formats to discharged paper trays nor setting of sheet sizes for paper to be supplied to discharged paper trays. Therefore, the requirement of “a setting means for selectively setting the form of output with respect to at least one of said plurality of trays”, recited in amended claim 1, is not disclosed or suggested in Tanaka.

Moreover, since Tanaka does not disclose the requirement of “a setting means for selectively setting the form of output with respect to at least one of said plurality of trays”, recited in amended claim 1, the requirement of “an image forming unit for forming an image on

the sheets in the form of output set by said setting means when the tray which the form of output has been set is selected as the destination of discharged sheet” is naturally not suggested also.

As indicated above, lines 47-59 of column 5 of Tanaka do not include anything that indicates the setting of the sheet size to be supplied to the discharged paper trays. Therefore, the requirement of “a setting means for...” is not disclosed with respect to claim 2 either. Furthermore, Tanaka naturally does not suggest the requirement “an image forming unit for...” concerning the requirement above.

Claim 17

Taneda discloses a sheet distribution device equipped with a plurality of discharged paper trays. Also, lines 7-19, column 6, indicated by Examiner, only describe about retracting the post handling unit so that each bin tray does not interfere with the post handling unit 7.

Thus, Taneda neither provides any description about setting the post handling condition selectively for each bin tray nor discloses the requirement “a setting means for selectively setting a post handling condition of discharged sheets with respect to at least one of said plurality of trays”, as recited in amended claim 17. Thus, Taneda also naturally does not suggest the requirement of “a sheet processing unit for performing the post handling of sheets based on the post handling condition set by said setting means when the tray which the post handling condition has been set is selected as the discharged destination” concerning the requirement mentioned above.

Thus, amended independent claims 1, 12 and 17, as well as dependent claims 2-5, 9, 13-15 and 18-20 are patentable over Tanaka, and claim 6, depending from amended claim 1, is patentable over Tanaka also, even when considered in view of Matsui et al.

NEW CLAIMS

Claims 21-23 are added.

Claim 21 recites:

An image forming apparatus comprising;
a receiving unit for receiving image data and data concerning the discharged destination and the post handling condition,
a plurality of trays for receiving discharged sheets bearing a formed image,
a sheet means for setting a post handling condition of discharged sheets with respect to at least one of said plurality of trays, and
a controller directing the sheet processing unit to perform the post handling of sheets based on the post handling condition set by said setting means when the tray where the post handling condition has been set is the discharged destination and to perform the post handling of sheets based on the post handling condition received by said receiving unit when the tray where the post handling condition has not been set is the discharged destination.

Claim 22 recites:

An image forming apparatus comprising;
an image forming unit for forming an image on a sheet;
a plurality of trays for receiving discharged sheets bearing the formed image;
a receiving means for receiving image data and data concerning the discharged destination and the form of output of the formed image on the discharged sheets;
a setting means for setting the form of output of the formed image on the discharged sheets with respect to at least one tray of the plurality of trays; and
a controller directing the image forming unit to form an image on a sheet having the form of output set by the setting means when a tray where the form of output of the formed image has been set is the discharged destination, and to form an image on a sheet having the form of output received by the receiving means when a tray where the form of output of the formed image has not been set is the discharged destination.

Claim 23 recites:

An image forming apparatus comprising;

a receiving unit for receiving image data and data concerning the discharged destination and the post handling condition,

a plurality of trays for receiving discharged sheets bearing a formed image,

a sheet means for setting a post handling condition of discharged sheets with respect to at least one of said plurality of trays, and

a controller directing the sheet processing unit to perform the post handling of sheets based on the post handling condition set by said setting means when the tray where the post handling condition has been set is the discharged destination and to perform the post handling of sheets based on the post handling condition received by said receiving unit when the tray where the post handling condition has not been set is the discharged destination.

None of the applied prior art references is believed to disclose or suggest the features recited in new claims 21-23. Therefore, new claims 21-23 are believed to be patentable over the applied prior art references and their allowance is respectfully solicited.

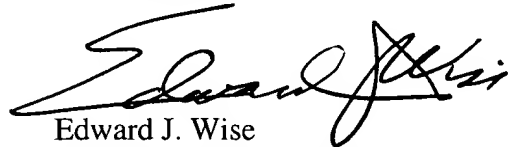
CONCLUSION

Accordingly, it is urged that the application, as now amended, is in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT, WILL & EMERY

A handwritten signature in black ink, appearing to read "Edward J. Wise", written over a horizontal line.

Edward J. Wise
Registration No. 34,523

600 13th Street, N.W.
Washington, DC 20005-3096
(202)756-8000 EJW:khh
Facsimile: (202)756-8087
Date: November 27, 2002

VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE CLAIMS:

Please amend claims 1, 7, 10, 12, 16 and 17 as follows:

1. (Amended) An image forming apparatus comprising:[]

a plurality of trays for receiving discharged sheets bearing a formed image,

a setting means for selectively setting the form of output with respect to at least one of said plurality of trays, and

an image forming unit for forming an image on the sheets in the form of output set by said setting means when the tray which the form of output has been set is selected as the destination of discharged sheet [paper].

7. (Amended) An image forming apparatus [according to claim 1, which further comprises] comprising:

a plurality of trays for receiving discharged sheets bearing a formed image;

a setting means for setting the form of output with respect to at least one of said plurality of trays;

an image forming unit for forming an image on the sheets in the form of output set by said setting means when the tray which the form of output has been set is selected as the destination of discharged paper; and

an editing means for editing an image data in accordance with the form of output of an image and a memory for storing an image data edited by said editing means when the supply of sheets to be discharged runs out.

10. (Amended) An image forming apparatus [according to claim 9, which further comprises] comprising:

a plurality of trays for receiving discharged sheets bearing a formed image;

a setting means for setting the form of output with respect to at least one of said plurality of trays;

an image forming unit for forming an image on the sheets in the form of output set by said setting means when the tray which the form of output has been set is selected as the destination of discharged paper;

a receiving means for receiving data concerning the discharged destination and the form of output and an image data as a set, said image forming unit serving the purpose of forming an image on sheets based on the image data received by said receiving means; and

a judging means for examining the tray decided based on the received data of discharged destinations to judge whether or not the form of output has been set by said setting means, and a controller for invalidating the received data concerning the form of output when said judging means draws a judgment that the form of output has been set for said tray.

12. (Amended) An image forming apparatus comprising:[:]

a plurality of trays for receiving discharged sheets bearing a formed image,

a setting means for selectively setting the size of sheet [discharged sheets] with respect to at least one of said plurality of trays, and

an image forming unit for supplying sheets of the size set by said setting means and forming an image on the supplied sheet when the tray which the size of sheet has been set

[having set the size of discharged sheets] is selected as the discharged destination [and then forming an image on said sheets].

16. (Amended) An image forming apparatus [according to claim 15, which further comprises] comprising:

a plurality of trays for receiving discharged sheets bearing a formed image;

a setting means for setting the size of discharged sheets with respect to at least one of said plurality of trays;

an image forming unit for supplying sheets of the size set by said setting means when the tray having set the size of discharged sheets is selected as the discharged destination and then forming an image on said sheets;

a receiving means for receiving data concerning the discharged destination and the size of sheets and an image data as a set, said image forming unit serving the purpose of forming an image on sheets based on the image data received by said receiving means; and

a judging means for examining the tray decided based on the received data of discharged destinations to judge whether or not the size of sheets has been set by said setting means, and a controller for invalidating the received data concerning the size of received sheets when said judging means has drawn a judgment that the size of sheet has been set for said tray.

17. (Amended) An image forming apparatus comprising:[:]

a plurality of trays for receiving discharged sheets bearing a formed image,

a setting means for selectively setting a post handling condition of discharged sheets with respect to at least one of said plurality of trays, and

a sheet processing unit for performing the post handling of sheets based on the post handling condition set by said setting means when the tray which the post handling condition has been set [having set the post handling of discharged sheets] is selected as the discharged destination.